



Mr. James Saric
Remedial Project Manager
USEPA Region 5
77 West Jackson Boulevard (SR-6J)
Chicago, IL 60604-3507

ARCADIS
10559 Citation Drive
Suite 100
Brighton
Michigan 48116
Tel 810.229.8594
Fax 810.229.8837
www.arcadis-us.com

Subject:

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies Monthly Progress Report
Area 1 – Morrow Dam to Plainwell Dam (August 2009)

SEDIMENTS

Dear Jim:

Date:
September 15, 2009

Attached is the 30th monthly progress report for the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site Supplemental Remedial Investigation/Feasibility Study (SRI/FS) – Area 1. This progress report is submitted as per Paragraph 37 of the February 2007 Administrative Settlement Agreement and Order on Consent (AOC) for Remedial Investigations/Feasibility Studies (Docket No. V-W-07-C-864), as well as Section 7.1 of the associated Statement of Work (SOW). If you have any questions, please do not hesitate to contact me.

Contact:
Michael J. Erickson, P.E.

Phone:
810.225.1924

Email:
michael.erickson@
arcadis-us.com

Sincerely,

ARCADIS

Michael J. Erickson, P.E.
Associate Vice President

Our ref:
B0064539.0000.00014
#2

Copies:

Michael Berkoff, USEPA
Sam Chummar, USEPA
Sam Borries, USEPA
Paul Bucholtz, MDEQ (with Attachment A)
Jeff Keiser, CH2M HILL (with Attachment A)
Todd Goeks, NOAA (with Attachment A)
Richard Gay, Weyerhaeuser Company
Martin Lebo, Weyerhaeuser Company
Kathy Huibregtse, RMT Inc. (with Attachment A)
J. Michael Davis, Esq., Georgia-Pacific LLC
Garry Griffith, P.E., Georgia-Pacific LLC
Paul Montney, P.E., Georgia-Pacific LLC
L. Chase Fortenberry, P.G., Georgia-Pacific LLC

**MONTHLY PROGRESS REPORT FOR THE ALLIED PAPER, INC./PORTAGE CREEK/
KALAMAZOO RIVER SUPERFUND SITE SRI/FS
AREA 1 (MORROW DAM TO PLAINWELL DAM)**

REPORT #30, AUGUST 2009

**PREPARED BY ARCADIS
SEPTEMBER 15, 2009**

ON BEHALF OF THE KALAMAZOO RIVER STUDY GROUP (KRSG)

SUBMITTED TO

**JAMES SARIC, REMEDIAL PROJECT MANAGER
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA)**

**Monthly Progress Report for the Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site SRI/FS – Area 1**

REPORT #30, AUGUST 2009

**Significant Developments and Activities during the Period, Including Actions Undertaken
Pursuant to the AOC and SOW**

- On August 12, ARCADIS submitted to USEPA the *Hot Spot Assessment Sampling Plan*.
- On August 13, ARCADIS submitted the Area 1 proposed off-channel areas sampling approach (based on the June 11 presentation) to USEPA.
- On August 17, ARCADIS submitted to USEPA the Semi-Annual Progress Report for the period from February through July 2009. This submittal is discussed in Section 7.2 of the SOW.
- On August 17, ARCADIS transmitted to USEPA a letter agreement describing specific phased sampling tasks in the Area 1 SRI/FS Work Plan that will not be implemented based on results from preceding tasks.
- On August 17, USEPA forwarded to ARCADIS approval of the *Hot Spot Assessment Sampling Plan*.
- Georgia-Pacific awaits USEPA's comments on the Multi-Area FS document described in Section 1.2.2 of the SOW (Preliminary Remedial Technology Screening [Section 1.2.2.1]) and the *Candidate Technologies and Testing Needs Technical Memorandum* (described in Section 4.1 of the SOW), which were submitted to USEPA on February 22, 2008.
- Georgia-Pacific awaits USEPA comments on the draft Area 1 Risk Assessment Work Plan and the revised draft *Multi-Area FS Technical Memorandum - Preliminary Permitting/Equivalency Requirements* (Section 1.2.2.3 of the SOW), which was submitted for USEPA approval following revisions based on USEPA and Michigan Department of Environmental Quality comments.
- Georgia-Pacific awaits USEPA's concurrence with ARCADIS' August 17 letter regarding specific phased sampling tasks that will not be implemented in Area 1 based on results from preceding tasks.

Data Collected and Field Activities Conducted during the Period

- On August 21, ARCADIS released additional sediment samples for PCB analyses (Table A) from the Lake Allegan (Area 6) cores collected in May 2009 for radionuclide analysis. TestAmerica Laboratories, Inc. (TestAmerica) will analyze the samples for PCBs and percent solids.

**Monthly Progress Report for the Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site SRI/FS – Area 1**

REPORT #30, AUGUST 2009

Laboratory Data Received during the Period

- On August 1 and 12, ARCADIS received the remainder of the results for the Crown Vantage samples collected in July (sample delivery groups [SDGs] KAL464, KAL465, and KAL467) from TestAmerica (Table B). This sampling is discussed in Section 3.4.3 of the Area 1 SRI/FS Work Plan.
- On August 7 and 21, ARCADIS received the results for SDGs Pb0180 and Pb0181 (respectively) from Mass Spec Services for the radionuclide analyses (Table C) on samples collected from Lake Allegan. Note that additional cores are being retained in frozen storage at the ARCADIS field office in Kalamazoo.
- On August 10, CDM transmitted to ARCADIS the PCB analytical results for split samples collected during the Plainwell Time-Critical Removal Action (TCRA) area groundwater monitoring event in June/July 2009. This sampling is discussed in Section 3.4.6 of the Area 1 SRI/FS Work Plan.
- On August 12 and 13, ARCADIS received the PCB analytical results for the focused step-out samples collected in July (SDGs KAL467 and KAL468) from TestAmerica (Table D). The focused step-out sampling is discussed in Section 3.4.4 of the Area 1 SRI/FS Work Plan.
- On August 14, 18, and 31, ARCADIS received the PCB results for the sediment samples collected from Lake Allegan in May and released in July (SDGs KAL469, KAL470, and KAL471) from TestAmerica (Table E).
- On August 24, USEPA transmitted to ARCADIS maps from the Area 1 hot spot assessment area bathymetric study performed by FIELDS during the week of July 27, 2009.
- ARCADIS awaits PCB analytical results from selected sediment samples from Lake Allegan from TestAmerica.
- Validated data for the SDGs received in June are included in this monthly report. These data include the results for SDG Pb0173 from Mass Spec Services for the radionuclide analyses on sediment samples collected from Lake Allegan (Area 6) (Table F). In accordance with Section 2.1 of the SOW, paper and electronic copies of these laboratory data are included as part of the monthly progress reports. Attachment A contains the validation reports for these data packages. The enclosed CD also contains the electronic data deliverable for these data.

Problems

- None.

**Monthly Progress Report for the Allied Paper, Inc./Portage Creek/
Kalamazoo River Superfund Site SRI/FS – Area 1**

REPORT #30, AUGUST 2009

Actions Taken to Correct Problems

- None.

Developments Anticipated during the Next Two Reporting Periods

- Validated data for the SDGs received in July will be included in the September monthly report. These data include the results for SDGs Pb0174, Pb0175, and Pb0179 for the radionuclide analyses on samples collected from Lake Allegan; the results for the second round of groundwater and surface water samples collected in the Plainwell TCRA Area during the week of June 29 (SDG KAL462); and the results for a portion of the results for the Crown Vantage samples collected in July (SDGs KAL463 and KAL466).
- On September 1, ARCADIS is scheduled to survey the re-installed staff gage #2 (SG-2) in the Plainwell TCRA Area.
- On September 8, Dr. Ken Jenkins of ARCADIS is scheduled to meet with Dr. Jim Chapman of USEPA to discuss technical issues associated with the ecological portions of the Area 1 Risk Assessment Work Plan.
- On September 8, ARCADIS is scheduled to begin monitoring the groundwater and surface water elevations twice a week to confirm groundwater flow towards the river in the Plainwell TCRA Area for the quarterly sampling. This sampling is discussed in Section 3.4.6 of the Area 1 SRI/FS Work Plan.
- By September 30, ARCADIS expects to submit to USEPA a sampling plan to collect sediment core samples related to the *Hot Spot Assessment Sampling Plan*.
- In September, ARCADIS expects to schedule a working meeting to further discuss the Area 1 Risk Assessment Work Plan.
- In September, ARCADIS will submit select frozen core samples for radionuclide analysis from the Lake Allegan samples collected in May 2009. The samples will be the remaining deep samples from core ALG-10 and samples from a core at location SPI-40. Mass Spec Services will perform the analyses.
- In September, ARCADIS is scheduled to process and submit to TestAmerica the outer focused step-out cores from the FF-35 area for PCB analysis. These cores have been retained in frozen storage at the ARCADIS field office in Kalamazoo.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #30, August 2009

Table A — Lake Allegan (Area 6) — Cores Released for PCB Analysis on August 21, 2009

Date Collected	Location	Interval (cm)	Sample ID
5/14/2009	ALG-5	0-1	K16965
		1-2	K16966
		2-3	K16967
		3-4	K16968 [K16969]
		4-5	K16970
		5-6	K16971
		6-7	K16972
		7-8	K16973
		8-9	K16974
		9-10	K16975
		10-12	K16976
		12-14	K16977
		14-16	K16978
		16-18	K16979 [K16980]
		18-20	K16981
		20-25	K16982
		25-30	K16983
		30-35	K16984
		35-40	K16985
		40-45	K16986
		45-50	K16987
		50-55	K16988
		60-65	K16989
5/14/2009	ALG-6	0-1	K16990
		1-2	K16991
		2-3	K16992
		3-4	K16993
		4-5	K16994 [K16995]
		5-6	K16996
		6-7	K16997
		7-8	K16998
		8-9	K16999
		9-10	K17000 [K17001]
		10-12	K17002
		12-14	K17003
		14-16	K17004
		16-18	K17005
		18-20	K17006
		20-25	K17007
		25-30	K17008
		30-35	K17009
		35-40	K17010
		40-45	K17011
		45-50	K17012
		50-55	K17013
		55-60	K17014
		60-65	K17015

See Note on Page 2.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #30, August 2009

Table A — Lake Allegan (Area 6) — Cores Released for PCB Analysis on August 21, 2009

Date Collected	Location	Interval (cm)	Sample ID
5/14/2009	ALG-7	0-1	K16878
		1-2	K16879
		2-3	K16880 [K16881]
		3-4	K16882
		4-5	K16883
		5-6	K16884
		6-7	K16885
		7-8	K16886
		8-9	K16887
		9-10	K16888
		10-12	K16889
		12-14	K16890
		14-16	K16891 [K16892]
		16-18	K16893
		18-20	K16894
		20-25	K16895
		25-30	K16896
		30-35	K16897
		35-40	K16898
		40-45	K16899
		45-50	K16900
		50-55	K16901
		55-60	K16902
		60-65	K16903
		65-70	K16904

Notes:

Samples were submitted to TestAmerica Laboratories, Inc.
for PCB and percent solids analysis.
Duplicate samples are in brackets.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #30, August 2009

Table B — Crown Vantage Landfill — Sediment and Soil PCB Sample Data Received in August 2009

Date Processed	Location	Sample ID	SDG
7/8/2009	CVS-01	K26440	KAL464
		K26441	KAL464
		K26442	KAL464
	CVS-02	K26443	KAL464
		K26444	KAL464
		K26445	KAL464
		K26446	KAL464
	CVS-03	K26447	KAL464
		K26448	KAL464
		K26449	KAL464
		K26450	KAL464
	CVS-04	K26451 [K26452]	KAL464 [KAL464]
		K26453 ¹	KAL464
	CVS-05	K26454	KAL464
		K26455	KAL464
	CVS-06	K26456	KAL464
		K26457	KAL465
		K26458	KAL465
		K26459	KAL465
	CVS-07	K26460	KAL465
		K26461	KAL465
		K26462	KAL465
7/9/2009	CVS-08	K26463	KAL465
		K26464	KAL465
		K26465	KAL465
		K26466	KAL465
	CVS-09	K26467	KAL465
		K26468	KAL465
		K26469	KAL465
	CVS-10	K26470	KAL465
		K26471 [K26472]	KAL465 [KAL465]
		K26473 ¹	KAL465
	FF-28	K56299	KAL465
		K56300 [K56301]	KAL465 [KAL465]
	CVT-08-5	K56323 [K56324]	KAL464 [KAL464]
		K56326	KAL464
	CVT-03-1	K56345	KAL467
		K56346 [K56347]	KAL467 [KAL467]
		K56348 ¹	KAL467

Notes:

All samples analyzed for PCBs, TOC, and grain size by TestAmerica Laboratories, Inc.

¹MS/MSD performed on this sample.

Duplicate samples are in brackets.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #30, August 2009

Table C — Lake Allegan (Area 6) — Radionuclide Data Received in August 2009

Date Collected	Location	Interval (cm)	Sample ID	SDG
5/14/2009	ALG-5	7-8	K16973	Pb0180
		8-9	K16974	Pb0180
		9-10	K16975	Pb0180
		10-12	K16976	Pb0180
		12-14	K16977	Pb0180
		14-16	K16978	Pb0180
		16-18	K16979	Pb0180
		18-20	K16981	Pb0180
		20-25	K16982	Pb0180
		25-30	K16983	Pb0180
		30-35	K16984	Pb0180
		35-40	K16985	Pb0180
		40-45	K16986	Pb0180
		45-50	K16987	Pb0180
		50-55	K16988	Pb0180
5/14/2009	ALG-6	60-65	K16989	Pb0180
		0-1	K16990	Pb0180
		1-2	K16991	Pb0180
		2-3	K16992	Pb0180
		3-4	K16993	Pb0180
		4-5	K16994	Pb0181
		5-6	K16996	Pb0181
		6-7	K16997	Pb0181
		7-8	K16998	Pb0181
		8-9	K16999	Pb0181
		9-10	K17000	Pb0181
		10-12	K17002	Pb0181
		12-14	K17003	Pb0181
		14-16	K17004	Pb0181
		16-18	K17005	Pb0181
		18-20	K17006	Pb0181
		20-25	K17007	Pb0181
		25-30	K17008	Pb0181
		30-35	K17009	Pb0181
		35-40	K17010	Pb0181
		40-45	K17011	Pb0181
		45-50	K17012	Pb0181
		50-55	K17013	Pb0181
		55-60	K17014	Pb0181
		60-65	K17015	Pb0181

Note:

All samples were submitted to Mass Spec Services for Pb-210 and Cs-137 radionuclide analysis.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #30, August 2009

Table D — Focused Step-Out Sampling - Crown Vantage Landfill to Plainwell No. 2 Dam —
Sediment Sample PCB Data Received in August 2009

Location	Sample ID	Interval (in)	SDG
FF-35-10'W	K56349	0-2	KAL467
	K56350	2-6	KAL467
	K56351	6-12	KAL467
	K56352	12-16	KAL467
	K56353	16-19	KAL467
FF-35-10'S	K56354	0-2	KAL467
	K56355	2-6	KAL467
	K56356	6-12	KAL467
	K56357	12-14.5	KAL467
FF-35-20'S	K56358	0-2	KAL467
	K56359	2-6	KAL467
	K56360 ¹ [K56361]	6-15	KAL468 [KAL468]
FF-35	K56362	0-2	KAL467
	K56363	2-6	KAL467
	K56364	6-12	KAL467
	K56365	12-17	KAL467
FF-35-10'E	K56366	0-2	KAL467
	K56367	2-6	KAL468
	K56368	6-12	KAL468
	K56369	12-16	KAL468
FF-35-10'N	K56370	0-2	KAL468
	K56371	2-6	KAL468
	K56372	6-14	KAL468
FF-35-20'N	K56373	0-2	KAL468
	K56374	2-6	KAL468
	K56375	6-8	KAL468
	K56376	8-13	KAL468

Notes:

All samples analyzed for PCBs, TOC, and grain size by TestAmerica Laboratories, Inc.

¹MS/MSD performed on this sample.

Duplicate samples are in brackets.

Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #30, August 2009

Table E — Lake Allegan (Area 6) — PCB Data Received for Lake Allegan in August 2009

Date Collected	Location	Interval (cm)	Sample ID	SDG
5/13/2009	ALG-10	0-1	K16845	KAL470
		1-2	K16846	KAL470
		2-3	K16847	KAL470
		3-4	K16848	KAL470
		4-5	K16849	KAL470
		5-6	K16850	KAL470
		6-7	K16851	KAL470
		7-8	K16852	KAL470
		8-9	K16853	KAL470
		9-10	K16854	KAL470
		10-12	K16855	KAL470
		12-14	K16856	KAL470
		14-16	K16857	KAL470
		16-18	K16858	KAL470
		18-20	K16859	KAL470
		20-25	K16860	KAL470
		25-30	K16861	KAL470
		30-35	K16862 ¹	KAL471
		35-40	K16863	KAL471
		34-40	K16864	KAL471
		40-45	K16865	KAL471
		45-50	K16866	KAL471
		50-55	K16867	KAL471
		55-60	K16868 [K16869]	KAL471
		60-65	K16870	KAL471
		65-70	K16871	KAL471
5/14/2009	ALG-8	0-1	K16908	KAL469
		1-2	K16909	KAL469
		2-3	K16910	KAL469
		3-4	K16911	KAL469
		4-5	K16912	KAL469
		5-6	K16913 [K16914]	KAL469
		6-7	K16915	KAL469
		7-8	K16916	KAL469
		8-9	K16917	KAL469
		9-10	K16918	KAL469
		10-12	K16919	KAL469
		12-14	K16920 [K16921]	KAL469
		14-16	K16922	KAL469
		16-18	K16923 ¹	KAL469
		18-20	K16924	KAL469
		20-25	K16925	KAL471
		25-30	K16926	KAL471
		30-35	K16927	KAL471
		35-40	K16928	KAL471
		40-45	K16929	KAL471
		45-50	K16930	KAL471
		50-55	K16931	KAL471
		55-56	K16932	KAL471

Notes:

All samples analyzed for PCBs and percent solids by TestAmerica Laboratories, Inc.

¹MS/MSD performed on this sample.

Duplicate samples are in brackets.

**Kalamazoo River Study Group
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Supplemental Remedial Investigations/Feasibility Studies
Monthly Report #30, August 2009**

Table F — Results for Radionuclide Samples Collected in Lake Allegan - Data Received in June 2009

Sample Name:		K16845	K16846	K16847	K16848	K16849	K16850	K16851	K16852	K16853	K16854
Sample Depth (cm):		0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10
Date Collected:		05/13/09	05/13/09	05/13/09	05/13/09	05/13/09	05/13/09	05/13/09	05/13/09	05/13/09	05/13/09
Location ID:	Units	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10
Geochronology											
Lead-210	pCi/g	2.68 ± 0.16	2.53 ± 0.16	2.81 ± 0.17	2.52 ± 0.15	2.4 ± 0.16	2.29 ± 0.15	2.25 ± 0.15	1.83 ± 0.13	1.87 ± 0.13	1.65 ± 0.13
Cesium-137	pCi/g	0.088 U	0.18 ± 0.065	0.17 ± 0.06	0.128 ± 0.046	0.14 ± 0.037	0.187 ± 0.055	0.177 ± 0.061	0.183 ± 0.048	0.471 ± 0.086	0.553 ± 0.137
Beryllium-7	pCi/g	0.85 U	0.64 U	0.66 U	0.47 U	0.46 U	0.18 U	0.32 U	0.55 U	0.61 U	0.54 U

Sample Name:		K16855	K16856	K16857	K16858	K16859	K16860	K16861	K16862	K16863	K16865
Sample Depth (cm):		10 - 12	12 - 14	14 - 16	16 - 18	18 - 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45
Date Collected:		05/13/09	05/13/09	05/13/09	05/13/09	05/13/09	05/13/09	05/13/09	05/13/09	05/13/09	05/13/09
Location ID:	Units	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10	ALG-10
Geochronology											
Lead-210	pCi/g	1.7 ± 0.14	1.76 ± 0.14	1.61 ± 0.14	1.55 ± 0.14	1.62 ± 0.13	1.54 ± 0.14	1.45 ± 0.12	1.52 ± 0.13	1.44 ± 0.12	1.45 ± 0.12
Cesium-137	pCi/g	0.553 ± 0.104	0.621 ± 0.094	0.518 ± 0.077	0.548 ± 0.07	0.517 ± 0.065	0.491 ± 0.054	0.568 ± 0.058	0.541 ± 0.077	0.629 ± 0.069	0.666 ± 0.08
Beryllium-7	pCi/g	0.7 U	0.57 U	0.73 U	0.54 U	0.62 U	0.46 U	0.61 U	0.61 U	0.45 U	0.52 U

Notes:

Data received in June 2009 from Mass Spec Services.

pCi/g - average picocuries per gram

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.